

**STUDY #16 WHITEWATER AND RIVER BOATING***November 21, 2001***1.0 INTRODUCTION/BACKGROUND**

River-related recreation such as kayaking, canoeing, and boat fishing are important activities along portions of the Feather River within the Study Area. They can be impacted by project operations that alter lake levels in stream flows. Lake levels Flows can affect safety, navigability, and the overall quality of a recreational experience. This study will identify the effect of project operations on whitewater and river boating recreational experiences.

**2.0 STUDY OBJECTIVE**

The main objective of this study is to identify ways to provide recreational experiences for appropriate water-related activities such as rafting, kayaking, and canoeing, and boat fishing. The study addresses Issue Statement R1—adequacy of existing project recreation facilities, opportunities, and access to accommodate current use and future demands. It specifically addresses Issues RE 1, 2, 5-17, 19-39, 55, 56, 60, 64-83, 95, 96, 104, and 105.

**3.0 RELATIONSHIP TO RELICENSING/NEED FOR THE STUDY**

Information gathered for this study will be used to recommend any measures or facilities for the purpose of creating, preserving, or enhancing recreational opportunities at the project and in its vicinity (Subpart F, Section 4.51 of 18 CFR). This study will examine the suitability of selected reaches of the Feather River for several types of boating activities as a function of variations in flow levels.

**4.0 STUDY AREA**

The Study Area includes reaches of the Feather River above and below Oroville Reservoir. Lands and waters within and adjacent to (1/4 mile) the FERC project boundary will be studied. Adjacent lands, facilities, and areas with a clear project nexus will also be studied. The study area is comprised of two reaches of the Feather River. One reach is located in the UNFFR beginning at the Poe Powerhouse and ending at the north branch of the Lake Oroville Reservoir. This reach is likely suitable for boating during late Summer through early Fall.

However, additional review of hydrological data will be necessary to confirm when this reach is exposed enough to be boatable. The ~~middle~~ reach, known as the low flow channel, begins at the base of the Oroville Dam and ends at the ~~southern boundary of the~~ Forebay outlet in the Oroville Wildlife Area (OWA), and it is suitable for boating all year long. The third and lower reach begins at the outlet and continues to Gridley. ~~(include down to Gridley — maybe word it as three reaches: NFER; Dam to outlet; outlet to Gridley).~~

**5.0 GENERAL APPROACH****Task 1—Review Existing Studies and Data**

The research team will review historic records of flow rates, by minimum, maximum, and average levels. The review will include time periods prior to and after the project was completed, and seasonal variations will be noted. The team will also examine existing studies on boating suitability, including the in-stream flow handbook (Whittaker et al. 1993). The team will also consult with the Feather River Park and Recreation

---

District (FRPRD), American Rivers, American Whitewater Affiliation (AWA), and others to determine if there are current or recent river boating studies pertinent to this effort.

---

One particular study that will be reviewed is the Poe Whitewater Suitability Study (FERC Project No. 2107), conducted by EDAW in 2001. Based on their research, the team will determine which flows appear to be suitable for canoeing, kayaking, rafting, and drift boats.

#### Task 2—Onsite Reconnaissance

The research team will conduct a reconnaissance of the reaches in question. They will document characteristics of, photograph and map these reaches, noting rapids, potential safety hazards, access roads, and put-in and take-out areas. The team will also review signage, facilities, and parking accommodations for potential boaters. This information will be used to implement Task 3.

#### Task 3—Assess Controlled Flow Effects on Boatability Study

Data on lake levels and flow rates on the three reaches will be obtained from the Operations and Engineering Work group. These data will be examined to determine the number of days the reaches in question may be boatable, especially the upper reach. In addition, members of the research team and local whitewater boating experts will visit and document each reach in question.

The controlled flow investigation will be the primary information source for this study. The central concept is to manipulate the independent variable (flow), and then evaluate how those flows affect recreation conditions and experiences for a small sample of boaters. This method is most appropriate on short day use segments such as those in the north fork, and in the low flow channel below Oroville Dam. Also, since the upper reach infrequently provides boatable flows, a controlled flow study is the most efficient study option.

(insert coordination with other studies to get data on reservoir levels which is the limiting factor to whitewater boating.)

During the controlled flow study, both qualitative and quantitative information will be collected. The former will be developed during post-run focus groups with boaters and other users (if they are available); the latter will be developed through surveys provided to users before and after each flow, and at the close of the study.

The boating sample during the controlled flow study will be provided through contacts with Shasta Paddlers, Chico Paddleheads, and AWA. There is likely to be a smaller sample for the upper reach, which appears to have more difficult whitewater and appears to be more suitable for kayaks or similar craft. On the lower reach, slightly higher participation from rafters is expected (seven to ten boaters and two researchers). Preliminary information suggests controlled flow studies on the upper river will be conducted with various releases and flows.

During all flows, During site reconnaissance, video and still photography will be used to document key flow-related features such as rapids and access areas. These locations will be established prior to the study and maintained consistently during all flows. It is expected that two to four locations per reach will be established. The final cut of the video will show brief representative footage of each location at each flow, with limited labeling and editing. Recent aerial photography may also be used to identify boatability.

Depending on lake levels, a controlled flow study may be conducted for the upper reach, and possibly the middle and lower reaches as well. Participants for the study would be recruited from local whitewater organizations such as Chico Paddleheads, or the Shasta Paddlers. The approach to this study would that described by Whittaker et al. (1993).

In addition to interviews with knowledgeable resource users, limited interviews with recreation users, who are on-site during fieldwork, will be conducted. These interviews will follow a similar format to those conducted with knowledgeable resource users, although they are likely to be more abbreviated because these users generally possess less information about the river, recreation, or how flow levels affect them. Researchers

---

have recognized that many recreation users are sensitive to flow conditions but may have little information about the specific flows that provide minimum or optimal quality (Brown et al. 1991; Shelby et al. 1992; Whittaker et al. 1993).

On flow release days, researchers will run the river with boating participants, oversee the administration of pre-study and post-run surveys, and conduct short focus groups after each run. At the end of the study, they will conduct a debriefing session with all boating participants.

Output from this task will include field and focus group notes from each run, video and still photos, completed boating surveys, and the coded survey database.

Task 4A—Assess Whitewater Boating Demand—Information will be collected via focus groups or in-depth interviews from boat users in the three reaches. Boat users will be asked a series of questions about their current and previous use of the reach in question (upper, middle, or lower). Users will also be asked questions about possible improvements that would increase their use. For example, if the “paddle out” time on the reservoir portion the upper reach could be reduced by improving access to other takeout areas, use of this reach may increase.

#### Task 4B—River Boating Regional Opportunity Assessment

A literature review and analysis of California whitewater and fishing guidebooks will be conducted in an effort to assess the “uniqueness” and “importance” of potential boating and fishing opportunities on the two river reaches. Up to ten interviews with local boaters and anglers may also contribute to this assessment, which will compare likely opportunities on the Feather River with other known whitewater runs within a 250 mile radius. This task will include a detailed description of the north fork run, and the lower river run, as well as summary tables of similar opportunities in the region. It will also include rough estimates of potential use levels on the river reaches based on interviews and available use information regarding similar reaches in the area (to be determined through short interviews with the appropriate resource managers).

The potential demand for creating an whitewater park will also be briefly investigated as part of Study #14, Assessment of Barriers to Recreation and Regional Recreation. A part of Study #14 involves investigating user demand for special events, such as mountain bike races, or bass fishing tournaments. Olympic type whitewater events is another special event that will be evaluated. The analysis will be based on qualitative interviews with whitewater experts to determine what level of demand might be generated from this type of development.

## **6.0 RESULTS AND PRODUCTS/DELIVERABLES**

### ***Results***

Results of this study will be used to identify minimum and optimal flows suitable for river and whitewater boating.

### ***Products/Deliverables***

The following product will be developed for this study:

- Draft Final Report

The report will include an executive summary; an introduction; objectives; methods; results; and recommendations for flows that will provide optimal boating experiences.

---

## 7.0 COORDINATION AND IMPLEMENTATION STRATEGY

### *Coordination with Other Resource Areas/Studies*

This study will require coordination with Study #3—Assess Relationship of Project Operations and Recreation; Study #7—Reservoir Boating Survey; Study #13—Recreation Surveys; and Study # 15—Recreation Suitability.

### *Issues, Concerns, Comments Tracking, and/or Regulatory Compliance*

This study addresses Issue Statement R1—adequacy of existing project recreation facilities, opportunities, and access to accommodate current use and future demand. It specifically addresses Issues RE 1, 2, 5-17, 19-39, 55, 56, 60, 64-83, 95, 96, 104, and 105.

## 8.0 STUDY SCHEDULE

Data collection: March through April 2003.

Report writing and data analysis: May through June 2003.

Draft Final Report due: July 2003.

## 9.0 REFERENCES

Holbeck, L. and C. Stanley. 1988. The Best Whitewater in California. Mass Market Paperback. Friends of the River Books. Palo Alto, CA.

Whittaker, D., B. Shelby, W. Jackson, and R. Beschta. 1993. Instream Flows for Recreation: A Handbook on Concepts and Research Methods. National Park Service. Anchorage, AK.